



U.S. Army Research, Development and Engineering Command

APS Common Architecture Industry Overview

21 August 2013



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Report Documentation Page			Form Approved OMB No. 0704-0188		
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1. REPORT DATE 20 AUG 2013	2. REPORT TYPE Briefing Charts	3. DATES COVERED 15-08-2013 to 19-08-2013			
4. TITLE AND SUBTITLE Active Protection System (APS) Common Architecture Industry Overview			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Scott Rogan			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army TARDEC, 6501 East Eleven Mile Rd, Warren, Mi, 48397-5000			8. PERFORMING ORGANIZATION REPORT NUMBER #24152		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army TARDEC, 6501 East Eleven Mile Rd, Warren, Mi, 48397-5000			10. SPONSOR/MONITOR'S ACRONYM(S) TARDEC		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S) #24152		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES GROUND VEHICLE SYSTEMS ENGINEERING AND TECHNOLOGY SYMPOSIUM (GVSETS), SET FOR AUG. 21-22, 2013					
14. ABSTRACT -Armor combined with an Active Protection System (APS) will provide the most efficient system level protection for space, weight, and performance -Army and industry have made significant investments into APS point designs; none have been fielded by the US because of cost, reliability, and integration challenges -Common Architecture (CA) for APS will allow commonality across the vehicle fleet, tailored systems to meet PM needs, and facilitate transition.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF: a. REPORT unclassified			17. LIMITATION OF ABSTRACT Public Release	18. NUMBER OF PAGES 5	19a. NAME OF RESPONSIBLE PERSON
b. ABSTRACT unclassified					
c. THIS PAGE unclassified					

- What is the Common Architecture?
- How can Industry get involved with the APS Common Architecture effort?
- What is the schedule for events that industry can engage?

Overview

- Armor combined with an Active Protection System (APS) will provide the most efficient system level protection for space, weight, and performance
- Army and industry have made significant investments into APS point designs; none have been fielded by the US because of cost, reliability, and integration challenges
- Common Architecture (CA) for APS will allow commonality across the vehicle fleet, tailored systems to meet PM needs, and facilitate transition.

		FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	RPG	RR	ATGM	TF
RDECOM APS	Common Architecture														
	Softkill Demonstrator														
	Hardkill/Softkill Demonstrator														

★↓ 2C Drop to Demonstrator
◆ TRL

Key Technical Components

Key Program Component: APS Common Architecture; development of an affordable flexible common (integration of components) architecture suitable for the timelines and environment of a APS.

Issue(s): Flexibility for integration of various technologies and components into a APS.

Plan to Approach: Develop and publish standard bus protocols with common interfaces, develop an AFSRB-compliant processor and software with a fire control module.

Key Program Component: Mature sensor and countermeasure technologies with common architecture interfaces for advance threat detection and defeat.

Issue(s): Level of effort necessary to build in common interfaces. Quantify performance impacts, issues and concerns using the common interface.

Plan to Approach: Partnership with Industry, Government engineering centers and labs to overcome any interface issues and obstacles.

Industry Engagements

- **Why**

- This will allow industry to be proactive with influencing CA and ensure the broadest inclusion of potential components
- Foster component competition to obtain the optimum components and to drive down cost

- **When**

- CA updates have been provided to industry at annual TARDEC/Survivability Industry days since FY12
- Technical industry engagements will be entry criteria to all major demonstrator reviews and feedback will shape deliverables – starting with Demonstrator System Requirements Review (~2QFY14)
- Additional engagements to ensure industry contact will occur quarterly

- **How**

- Formal substantive information sharing is a challenge currently being worked
- Researching lessons and mechanisms used by other efforts (VICTORY, Robotics ,and F22)

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